

DELTA-MENDOTA CANAL UNIT

**ENVIRONMENTAL ASSESSMENT
LONG-TERM CONTRACT RENEWAL**

**Volume II
Appendices**

February 2005

DELTA-MENDOTA CANAL UNIT

**ENVIRONMENTAL ASSESSMENT
LONG-TERM CONTRACT RENEWAL**

**Appendix A
Economic Analysis of November 1999
Tiered Pricing Proposal for PEIS Preferred Alternative**

February 2005

Economic Analysis of November 1999 Tiered Pricing Proposal for PEIS Preferred Alternative**Date: April 24, 2000**

This submittal presents the results of an Economic Analysis of the application to the PEIS Preferred Alternative of the November 1999 unit rates for CVP water and Tiered Pricing Proposal.

The PEIS Preferred Alternative included assumptions for the tiered pricing of CVP water that were developed during the preparation of the Draft PEIS. Subsequent to completion of the Final PEIS, a different tiered pricing proposal was developed. In addition, the PEIS assumed 1992 CVP water rates. This analysis includes the 1999 water rates. This submittal applies the new water rates and the November 1999 proposal to the Preferred Alternative and compares the results to the impact analysis of the PEIS Preferred Alternative. The level of detail presented in this submittal is consistent with the level of detail presented in the main PEIS document and the technical appendices. Tables are presented in the same format as used in the PEIS.

The economic analysis includes an evaluation of agricultural economics using Central Valley Production Model (CVPM), municipal and industrial water use economics for CVP water using the spreadsheet presented with the PEIS, and regional economics using IMPLAN. This memorandum discusses the new assumptions in the November 1999 proposal. However, this memorandum does not discuss the basic assumptions used in the PEIS models and analytical tools. This memorandum must be used in conjunction with the Draft PEIS and Final PEIS, including the methodology and modeling technical appendices, to explain the overall assumptions for evaluating the Preferred Alternative in the PEIS.

For the Agricultural Land Use and Economics analysis, the methodology used for applying CVP water rates was modified to allow for the new tiered pricing and the use of blended rates to determine a total water rate for all CVP water applied by an irrigation district or agency. These changes result in changes in water use due to the affordability of CVP water supplies, not a change in reliability.

For the Municipal and Industrial Water Use Economics analysis, blended rates had been used in the PEIS analysis. In addition, this analysis assumes that the municipal and industrial users will be able to afford the calculated water costs, as described in the PEIS. Therefore, CVP water deliveries do not change for the municipal and industrial analysis.

The Regional Economics analysis reflects only changes to agricultural and municipal and industrial sectors, but not recreation sectors.

Table of Contents for Technical Memorandum

Section 1 **Agricultural Land Use and Economics**

Agricultural Land Use and Economics Assumptions

Table 1	CVPM Subregions and Descriptions
Table 2	CVP Water Rates Used for PEIS Preferred Alternative
Table 3	CVP Water Rates Used for Long Term Contract Renewal Analysis (November 1999)
Table 4	Project Water Applied by Pricing Tiers Average Year Following Average 5-Year Base Condition
Table 5	Project Water Applied by Pricing Tiers Average Year Following Wet Base Condition
Table 6	Project Water Applied by Pricing Tiers Average Year Following Dry Base Condition
Table 7	Project Water Applied by Pricing Tiers Wet Year Following Average 5-Year Base Condition
Table 8	Project Water Applied by Pricing Tiers Wet Year Following Wet Base Condition
Table 9	Project Water Applied by Pricing Tiers Wet Year Following Dry Base Condition
Table 10	Project Water Applied by Pricing Tiers Dry Year Following Average 5-Year Base Condition
Table 11	Project Water Applied by Pricing Tiers Dry Year Following Wet Base Condition
Table 12	Project Water Applied by Pricing Tiers Dry Year Following Dry Base Condition
Table 13	Irrigated Acres by Subregion
Table 14	Value of Production by Subregion
Table 15	Net Revenue Changes by Subregion
Table 16	Irrigation Water Applied by Region
Table 17	Irrigated Acreage by Subregion
Table 18	Value of Production by Subregion
Table 19	Changes in Net Revenue by Subregion
Table 20	Irrigation Water Applied by Subregion
Table 21	Subregion Analysis of Significant Changes in Water Use

Section 2 Municipal and Industrial Water Use Economics

Table 22 Summary of M&I Economics Analysis for Average and Dry Year Conditions

Section 3 Regional Economics**Regional Economics**

Table 23 Regional Economic Impact of All Sectors for the Average to Average Sequence Compared to the Preferred Alternative Average Year Condition

Table 24 Regional Economic Impact of the Average to Average Hydrologic Sequence Compared to the Preferred Alternative Average Year Condition

Table 25 Regional Economic Impact of All Sectors for the Average to Wet Sequence Compared to the Preferred Alternative Average Year Condition

Table 26 Regional Economic Impact of the Average to Wet Hydrologic Sequence Compared to the Preferred Alternative Average Year Condition

Table 27 Regional Economic Impact of All Sectors for the Average to Dry Sequence Compared to the Preferred Alternative Average Year Condition

Table 28 Regional Economic Impact of the Average to Dry Hydrologic Sequence Compared to the Preferred Alternative Average Year Condition

SECTION 1
AGRICULTURAL LAND USE AND ECONOMICS

AGRICULTURAL LAND USE AND ECONOMICS

CONTRACT RENEWAL PROPOSAL WITH BLENDED WATER RATES

In the November 1999 proposal, Reclamation has proposed that water sold to CVP water service contractors be sold according to tiered water rates as required by CVPIA section 3404.

Reclamation has also proposed that two categories of water be identified. Category 1 water would be calculated as the average delivery of the previous five years, and would be split into three tiers according to the 80-10-10 quantities defined in the CVPIA. Category 2 water would be any water available in excess of the 5-year rolling average, up to the total contract amount as defined by the Needs Analysis.

Tier 1 water rates include the cost-of-service component and any applicable Restoration charges and surcharges. Both the Restoration Charge and the capital component of the cost-of-service rate are subject to ability-to-pay limits. These limits are in effect for Bella Vista WD and Clear Creek CSD, contractors on the Corning and Tehama-Colusa Canals, and contractors receiving water from New Melones.

Tier 3 water rates include the full-cost rate (as defined in the Reclamation Reform Act) and any applicable Restoration Charges. No ability-to-pay relief is provided in this Tier. The Tier 2 water rate is the average of the applicable Tier 1 and Tier 3 rates. Category 2 water has the same rate as Tier 3.

For this proposal, it is assumed that water conservation guidelines allow contractors to blend the rate of CVP water delivered in any tier or Category, and that they do blend the rates. This is different from the assumption used to assess alternatives in the PEIS, in which contractors were assumed to sell CVP water to growers at tiered rates. Differences between PEIS pricing assumptions and this analysis are:

- This analysis assumes that contractors blend the price of all CVP water received at tiered rates into a single rate. Tiered rates to growers are assumed in the PEIS.
- The project water portion of Sacramento River water rights settlement contracts are not subject to the new pricing policy in this analysis. In the PEIS it was assumed that it was subject to tiered rates.
- Rates are based on the Irrigation Water Rates spreadsheets provided by Reclamation in November 1999. PEIS rates used the 1994 Irrigation Water Rates manual.
- Ability-to-pay relief is incorporated using the current payment capacity studies for Shasta County irrigation contractors, Corning Canal contractors, Tehama Colusa Canal contractors, and New Melones contractors. In the PEIS, payment capacity was based on a 1992 regional study (PEIS, 1999).

- In this analysis, ability to pay relief is provided in Tier 1, with none in Tier 3 - Tier 2 is the average of Tiers 1 and 3, and so provides 50% relief. In the PEIS, the same dollar amount of ability to pay relief is applied in all pricing tiers.
- A \$7.00 per acre-foot Restoration Charge is assumed in this analysis. A \$6.50 per acre-foot charge was used in the PEIS. The Friant surcharge was \$7.00 per acre-foot in both studies.
- There is no lower bound on the usage of CVP water. In the PEIS each subregion was restricted to using at least the Tier 1 quantity of CVP supplies.

METHODOLOGY

Other than the differences listed above, the modeling approach and underlying data were the same as used for the PEIS. The Central Valley Production Model (CVPM) was used in this analysis, with modifications needed to assess the specific water pricing conditions proposed. Table 1 shows the regions of the CVPM and the corresponding service areas. Groundwater hydrology was not assessed as it was in the PEIS alternatives. Therefore, for purposes of analysis, most regions were assumed to have access to replacement groundwater if needed. Based on groundwater hydrology as described in the PEIS, the following subregions are assumed to be unable to replace any CVP water with groundwater on a long term basis: Shasta County irrigation contractors (subregion 1), Corning Canal contractors (subregion 2), and the Tehama-Colusa service area (subregion 3B).

Water deliveries from the CVPIA Preferred Alternative were used (Reclamation CVPIA PEIS, 1999). These deliveries were allocated on a yearly basis into pricing tiers and categories according to the rules described above. Weighted average (i.e., blended) prices were calculated for each year, with quantities in each tier and category based on the previous five years of delivery. In any given year, the quantity and blended price of water depends on the 6-year sequence leading up to and including the current year. Throughout this report the following conventions are used: an Average year represents the average 1922-1990 water delivery from the CVPIA Preferred Alternative (Reclamation CVPIA PEIS, 1999); a Wet year represents the average delivery for the period of 1967-1971 from the CVPIA Preferred Alternative; and a Dry year is the average 1928-1934 delivery from The CVPIA Preferred Alternative.

A total of nine water supply sequences are assessed in this analysis and compared to the CVPIA Preferred Alternative:

Average-Average:	An average water year following a 5-year sequence of average years.
Wet-Average:	An average water year following a 5-year sequence of wet years.
Dry-Average:	An average water year following a 5-year sequence of dry years.
Average-Wet:	A wet water year following a 5-year sequence of average years.
Wet-Wet:	A wet water year following a 5-year sequence of wet years.
Dry-Wet:	A wet water year following a 5-year sequence of dry years.
Average-Dry:	A dry water year following a 5-year sequence of average years.
Wet-Dry:	A dry water year following a 5-year sequence of wet years.
Dry-Dry:	A dry water year following a 5-year sequence of dry years.

The CVP water rates used for each of the nine sequences described above and the CVPIA Preferred Alternative tiered prices are shown in Table 3. Tables 4-12 show the available CVP water service contract supplies by tier and the blended price for each of the 22 subregions under the nine sequences proposed for the Long-Term Contract Renewal analysis.

Results are shown for each of the nine sequences presented as differences compared to the CVPIA Preferred Alternative. When calculating differences from the CVPIA Preferred Alternative, sequences ending in an Average, Wet and Dry years are compared to the Average, Wet and Dry year CVPIA Preferred Alternative results respectively.

IRRIGATED ACRES

Changes in irrigated acres from the Preferred Alternative are summarized by region in Table 13. A complete list of changes by crop and subregion is provided as Table 17.

Both the Average-Average and Wet-Average scenarios show little difference from the Preferred Alternative under the Average hydrology conditions. The Dry-Average sequence shows a larger reduction in irrigated acres almost all of which comes from the Sacramento River region. Compared to the Wet year Preferred Alternative results, there is a similar pattern for the three Long-Term Contract Renewal sequences ending with Wet years. For all three of the Long Term Contract Renewal Sequences ending in a dry year there minimal increases in irrigated acreage compared to the Dry year CPVIA Preferred Alternative results. Irrigated acres remain unchanged under all nine sequences in the San Felipe Division.

The reduction in acreage in Average and Wet years preceded by a series of Dry years is a result of higher CVP water costs. Since the quantity of Category 1 water is based on the average deliveries of the preceding five years, the quantity of water eligible for Category 1 classification shrinks when a sustained drought is experienced. In an average or wet year follows a drought period, water becomes available however a large portion is classified as Category 2 and is priced at the full cost rate. This can be seen in Tables 6 and 9. When this relatively large block of full cost water is incorporated into the blended water price, all CVP supplies become more

expensive, and sometimes unaffordable. This result is not seen in the dry-dry sequence because there is not excess water that gets classified as Category 2.

GROSS AND NET REVENUE

Gross revenue (value of production) impacts follow acreage impacts quite closely, and are shown by region in Table 14. Compared to the Average Preferred Alternative, a small reduction of less than \$1 million is estimated for the Average-Average and Wet-Average scenarios, and a \$39 million reduction is estimated in Dry-Average scenario. Gross revenue also declines compared to the Wet Preferred Alternative with approximately \$5 million reductions in Average and Wet years and a larger reduction of \$29.6 million in the Dry-Wet scenario. In dry years preceded by all three hydrologic conditions, gross revenue is slightly higher when compared to the Preferred Alternative Dry year results. There were no changes in gross revenue for the San Felipe Division since there were no changes in irrigated acres compared to the CVPIA preferred Alternative. A complete list of changes in gross revenue by crop and subregion is provided as Table 18.

Net revenue impacts are separated into five components; Fallowed land, Groundwater pumping costs, Irrigation Costs, CVP water costs and higher crop prices. The CVP water cost component represents the impact to net revenue from changes in both the quantity of CVP water used and the price of CVP water. Therefore when the blended CVP water price increases, farmers frequently use less, and the net impact to the CVP water cost component can be positive even when the water price is higher. Table 15 summarizes the net income impacts by component. A negative entry in the table indicates a reduction in net revenue. A complete list of changes in net income by component for each subregion is provided as Table 19.

Relatively small net income impacts are seen in all water supply sequences at the State level. The Average-Average sequence compared to the Average year Preferred Alternative shows a decline of \$2 million in net revenue for all of California. The Wet-Average scenario is estimated to have a net increase of approximately \$4 million and the Dry-Average sequence a decrease of \$11 million.

The net revenue impact in wet years relative to the Preferred Alternative wet results show a pattern similar to the Average year results. Dry years preceded by a series of Average and Wet years both show net decrease in revenue of about \$4 million while the Dry-Dry sequence results in a \$8 million decrease in State wide net revenue relative the Preferred Alternative Dry results.

Notice that following a series of dry years, the net revenue component associated with crop prices often results in a positive impact to net revenue. This occurs because some subregions are forced to reduce acreage because of higher blended CVP water prices, resulting in higher crop prices received for acreage that remains in production. Note also the positive impacts to net revenue due to CVP water cost following the dry condition. This occurs because large amounts of CVP water are no longer affordable and are not purchased. Frequently this increase in net revenue is offset by increases in groundwater pumping costs or reduction in net revenue from land fallowing.

There is a negative impact to net revenue from irrigation costs in all three of the Central Valley regions in each of the nine Long-Term Contract Renewal sequences. This impact is derived from the irrigation efficiency improvements induced by higher CVP water prices in the Average year sequences. The change in irrigation efficiency is carried through to the Wet and dry year sequences because they are short run analyses and irrigation technology is fixed in the short run. The increase in irrigation efficiency results in a reduction in the total water used in some subregions while irrigated acreage remains constant.

WATER USE

Table 16 summarizes water use changes by region. A complete list of changes in CVP water use and groundwater use by subregion is provided as Table 20. Water supplies other than CVP project water and groundwater are unaffected and not shown. The San Joaquin River region and most of the sequences for the Sacramento River region show the typical response represented by a shift away from CVP supplies to groundwater as CVP water becomes more expensive under the new pricing schemes. The Tulare Lake region and wet years preceded by a series of Average and Wet years show what would be considered atypical responses. In the Sacramento River region when five years of Wet and Average conditions are followed by a wet year, the model predicts that both groundwater and CVP water use will decline relative to the Preferred Alternative Wet condition. The decrease in groundwater use is mostly attributed to subregion 3b. In this subregion in a wet year coming out of a series of Average or Wet years the blended price is cheaper than the Preferred Alternative Tier 2 water cost as well as the cost of pumping groundwater. Therefore there is a shift away from groundwater to CVP supplies. In Average years preceded by Average or Wet years, the subregion is prevented from shifting to CVP because they are already using their full CVP supply.

In the Tulare Lake region there is a pattern of shifting from groundwater to CVP water that can be attributed to subregions 17 and 18. These subregions shift because under the blended pricing scheme the CVP water becomes cheaper than pumping groundwater; therefore they maximize their CVP water use.

In average and wet years preceded by a series of dry years, there is a large decrease in CVP water use in both the Sacramento and San Joaquin River regions. This is driven by the relatively high cost of CVP supplies under these conditions. Since many subregions receive less water in dry years, or the water falls into the higher tiers and it becomes unaffordable as the base from which the blended price tier quantities is calculated shrinks. This sets up a condition where when an Average or Wet year comes along, the additional water is classified as Category 2 and assessed the full cost price. The CVP blended price is a weighted average of all CVP supplies therefore the cost for all CVP water increases and the supplies often become unaffordable.

LOCALIZED IMPACTS

Certain subregions are substantially affected by the proposed water pricing.

- The Tehama-Colusa service area is the most-affected region. Limited groundwater availability and very high full-cost price relative to the value of water in agricultural production result in almost 60,000 acres out of production in the Dry-Average sequence and substantially higher cost for lands remaining in production. This analysis shows a one-year snapshot for two conditions. Because water pricing is based on historic delivery, a region (such as the Tehama-Colusa region) may never be able to "buy its way" back out from a drought. Looked at over a sequence of dry years such as 1928-34 or 1987-92, many or most of the districts in this area could not survive as CVP contractors.
- The analysis predicts that the Delta subregion will make a complete switch to groundwater supplies in all nine hydrologic sequences, assuming groundwater is available in all parts of the service area.
- The analysis estimates that the once an extended drought is experienced the Delta-Mendota service area would switch from its CVP water service supply to groundwater, assuming groundwater is available in all parts of the service area.
- Westlands Water District and many of the Friant Unit contractors would likely continue purchasing CVP water, but agricultural net revenue would decline substantially due to higher cost. Since these areas continue to purchase CVP supplies in all coming out of drought conditions they would eventually build their base deliveries up or "buy their way" back to pre-drought tier quantities and prices.

TABLE 1

CVPM SUBREGIONS AND DESCRIPTIONS

CVPM Subregion	Description of Major Water Users
1	CVP Users: Anderson Cottonwood, Clear Creek, Bella Vista, Sacramento River miscellaneous users.
2	CVP Users: Corning Canal, Kirkwood, Tehema, Sacramento River, miscellaneous
3	CVP Users: Glenn Colusa ID, Provident, Princeton-Codora, Maxwell, and Colusa Basin Drain MWC.
3B	Tehama Colusa Canal Service Area. CVP Users: Orland-Artois WD, most of County of Colusa, Davis, Dunnigan, Glide Kanawha, La Grande, Westside WD.
4	CVP Users: Princeton-Codora-Glenn, Colusa Irrigation Co., Meridian Farm WC, Pelger Mutual WC, Recl. Dist. 1004, Recl. Dist. 108, Robers Ditch, Sartain M.D., Sutter MWC, Swinford Tract IC, Tisdale Irrigation, Sacramento River miscellaneous
5	Most Feather River Region riparian and appropriative users.
6	Yolo, Solano Counties. CVP Users: Conaway Ranch, Sacramento River miscellaneous users.
7	Sacramento Co. north of American River. CVP Users: Natomas Central MWC, Sacramento River miscellaneous users, Pheasant Grove-Verona, San Juan Suburban.
8	Sacramento Co. south of American River, San Joaquin Co.
9	Delta Regions. CVP Users: Banta Carbona, West Side, Plainview.
10	Delta Mendota Canal. CVP Users: Pacheco, Del Puerto, Hospital, Sunflower, West Stanislaus, Mustang, Orestimba, Patterson, Foothill, San Luis WD, Broadview, Eagle Field, Mercy Springs, Pool Exchange Contractors, Schedule II water rights, more.
11	Stanislaus River water rights: Modesto ID, Oakdale ID, South San Joaquin ID.
12	Turlock ID.
13	Merced ID. CVP Users: Madera, Chowchilla, Gravelly Ford.
14	CVP Users: Westlands WD.
15	Tulare Lake Bed. CVP Users: Fresno Slough, James, Tranquility, Traction Ranch, Laguna, Real. Dist. 1606.
16	Eastern Fresno Co. CVP Users: Friant-Kern Canal. Fresno ID, Garfield, International.
17	CVP Users: Friant-Kern Canal. Hills Valley, Tri-Valley Orange Cove.
18	CVP Users: Friant-Kern Canal, County of Fresno, Lower Tule River ID, Pixley ID, portion of Rag Gulch, Ducor, County of Tulare, most of Delano Earlimart, Exeter, Ivanhoe, Lewis Cr., Lindmore, Lindsay-Strathmore, Porterville, Sausalito, Stone Corral, Tea Pot Dome, Terra Bella, Tulare.
19	Kern Co. SWP Service Area.
20	CVP Users: Friant-Kern Canal. Shafter-Wasco, S. San Joaquin.
21	CVP Users: Cross Valley Canal, Friant-Kern Canal. Arvin Edison.

TABLE 2

CVP WATER RATES USED FOR LONG TERM CONTRACT RENEWAL ANALYSIS (\$)

CVP Subregion	Tiered Water Rates Used for LTCR analysis			Proposed Blended Water Rates for Water Service Contracts							
	Tier 1	Tier 2	Tier 3	Followed by Average				Followed by Wet			
				Average	Wet	Dry	Average	Wet	Dry	Average	Wet
1	12.01	37.56	63.12	19.67	14.98	14.14	23.91	19.67	18.20	25.19	21.09
2	10.71	36.40	62.09	18.42	10.71	49.66	29.55	18.42	52.83	10.71	10.71
3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3B	10.25	40.73	71.21	19.39	10.25	58.15	32.35	19.39	61.42	10.25	10.25
4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	20.65	23.01	25.36	21.35	21.18	21.77	21.52	21.35	21.92	20.90	20.81
6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	11.77	12.07	12.37	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86
8	10.00	27.46	44.92	15.24	10.00	30.36	25.64	15.24	35.47	10.00	10.00
9	24.79	55.14	85.50	33.89	24.79	64.53	55.27	33.89	73.22	24.79	24.79
10	31.15	40.16	49.16	33.85	31.15	42.94	38.01	33.85	44.63	31.15	31.15
11	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA
12	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA
13	32.16	38.41	44.65	34.04	33.25	37.44	34.77	34.04	37.94	32.16	32.16
14	32.62	46.48	60.33	36.78	32.62	50.76	43.17	36.78	53.36	32.62	32.62
15	32.71	41.91	51.10	35.47	34.55	38.10	36.34	35.47	38.82	33.07	32.71
16	40.48	46.78	53.08	42.37	41.22	45.32	43.40	42.37	46.07	40.48	40.48
17	34.18	40.49	46.79	36.07	35.15	39.28	36.92	36.07	39.88	34.18	34.18
18	33.63	40.48	47.33	35.69	34.73	39.16	36.57	35.69	39.78	33.63	33.63
19	34.58	42.16	49.73	36.86	35.00	41.21	38.84	36.86	42.52	34.58	34.58
20	34.58	42.16	49.73	36.86	35.70	40.85	37.92	36.86	41.58	34.58	34.58
21	32.70	39.00	45.31	34.59	32.98	39.01	36.33	34.59	40.03	32.70	32.70

NOTES:

1. Blended rates used pricing components from the November, 1999 Irrigation Water Rates spreadsheets, Restoration Charge of \$7.00
2. PEIS rates used regional estimates of payment capacity and allowed the same ATP relief in all tiers.
3. Blended rates use most recent available payment capacity studies from Reclamation, and allow ATP relief in Tier 1 but not in Tier 3.
4. Only Class 1 rates are shown for Friant Division. Friant surcharge is \$7.00 in all rates.

TABLE 3

CVP WATER RATES USED IN PREFERRED ALTERNATIVE (\$)

CVPM Subregion	Tiered Water Rates used in the PEIS Preferred Alternative		
	Tier 1	Tier 2	Tier 3
1	5.91	14.63	23.35
2	11.83	24.70	37.57
3	2.83	5.27	7.71
3B	17.16	36.23	55.29
4	5.32	7.63	9.93
5	4.53	6.97	9.40
6	4.53	6.82	9.11
7	6.63	8.83	11.03
8	4.53	7.10	9.66
9	28.54	35.25	41.95
10	33.46	40.02	46.57
11	NA	NA	NA
12	NA	NA	NA
13	33.65	39.40	45.14
14	39.31	54.39	69.46
15	28.16	34.88	41.59
16	38.25	44.26	50.26
17	35.58	41.91	48.23
18	35.01	41.26	47.50
19	36.68	42.89	49.09
20	36.68	42.89	49.09
21	35.40	42.01	48.62

NOTES:

1. PEIS rates used pricing components from the 1994 Irrigation Water Rates Manual, Restoration Charge of \$6.50.
2. PEIS rates used regional estimates of payment capacity and allowed the same ATP relief in all tiers.
3. Only Class 1 rates are shown for Friant Division. Friant surcharge is \$7.00 in all rates.

TABLE 4

**PROJECT WATER APPLIED BY PRICING TIERS
AVERAGE YEAR FOLLOWING AVERAGE 5-YEAR BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	9.4	1.2	1.2	-	\$ 19.67
2	21.9	2.7	2.7	-	\$ 18.42
3	-	-	-	-	NA
3B	159.7	20.0	20.0	-	\$ 19.39
4	-	-	-	-	NA
5	16.0	2.0	2.0	-	\$ 21.35
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	41.3	5.2	5.2	-	\$ 15.24
9	22.5	2.8	2.8	-	\$ 33.89
10	231.4	28.9	28.9	-	\$ 33.85
11	-	-	-	-	
12	-	-	-	-	
13	153.6	19.2	19.2	-	\$ 34.04
14	539.1	67.4	67.4	-	\$ 36.78
15	32.3	4.0	4.0	-	\$ 35.47
16	18.9	2.4	2.4	-	\$ 42.37
17	34.9	4.4	4.4	-	\$ 36.07
18	484.2	60.5	60.5	-	\$ 35.69
19	13.1	1.6	1.6	-	\$ 36.86
20	194.2	24.3	24.3	-	\$ 36.86
21	129.7	16.2	16.2	-	\$ 34.59

Table 5

**PROJECT WATER APPLIED BY PRICING TIERS
AVERAGE YEAR FOLLOWING WET (1967-71) BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.4	1.3	0.0	-	\$ 14.98
2	27.3	-	-	-	\$ 10.71
3	-	-	-	-	NA
3B	199.6	-	-	-	\$ 10.25
4	-	-	-	-	NA
5	16.6	2.1	1.2	-	\$ 21.18
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	51.6	-	-	-	\$ 10.00
9	28.2	-	-	-	\$ 24.79
10	289.2	-	-	-	\$ 31.15
11	-	-	-	-	NA
12	-	-	-	-	NA
13	165.0	20.6	6.3	-	\$ 33.25
14	673.8	-	-	-	\$ 32.62
15	34.2	4.3	1.9	-	\$ 34.55
16	21.0	2.6	0.1	-	\$ 41.22
17	37.9	4.7	1.0	-	\$ 35.15
18	523.8	65.5	15.9	-	\$ 34.73
19	15.5	0.9	-	-	\$ 35.00
20	211.7	26.5	4.6	-	\$ 35.70
21	154.9	7.2	-	-	\$ 32.98

Table 6

**PROJECT WATER APPLIED BY PRICING TIERS
AVERAGE YEAR FOLLOWING DRY 5-YEAR BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.8	1.0	-	-	\$ 14.14
2	6.2	0.8	0.8	19.6	\$ 49.66
3	-	-	-	-	NA
3B	40.2	5.0	5.0	149.3	\$ 58.15
4	-	-	-	-	NA
5	14.3	1.8	1.8	2.1	\$ 21.77
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	20.2	2.5	2.5	26.3	\$ 30.36
9	9.2	1.1	1.1	16.7	\$ 64.53
10	94.0	11.8	11.8	171.7	\$ 42.94
11	-	-	-	-	NA
12	-	-	-	-	NA
13	104.4	13.0	13.0	61.6	\$ 37.44
14	219.1	27.4	27.4	400.0	\$ 50.76
15	26.8	3.4	3.4	6.8	\$ 38.10
16	13.7	1.7	1.7	6.5	\$ 45.32
17	24.5	3.1	3.1	13.1	\$ 39.28
18	339.7	42.5	42.5	180.6	\$ 39.16
19	8.7	1.1	1.1	5.6	\$ 41.21
20	133.9	16.7	16.7	75.3	\$ 40.85
21	76.2	9.5	9.5	66.8	\$ 39.01

Table 7

**PROJECT WATER APPLIED BY PRICING TIERS
WET YEAR FOLLOWING AVERAGE 5-YEAR BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	9.4	1.2	1.2	1.3	\$ 23.91
2	21.9	2.7	2.7	9.4	\$ 29.55
3	-	-	-	-	NA
3B	159.7	20.0	20.0	66.6	\$ 32.35
4	-	-	-	-	NA
5	16.0	2.0	2.0	0.9	\$ 21.52
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	41.3	5.2	5.2	27.8	\$ 25.64
9	22.5	2.8	2.8	19.9	\$ 55.27
10	231.4	28.9	28.9	107.8	\$ 38.01
11	-	-	-	-	NA
12	-	-	-	-	NA
13	153.6	19.2	19.2	14.3	\$ 34.77
14	539.1	67.4	67.4	251.2	\$ 43.17
15	32.3	4.0	4.0	2.4	\$ 36.34
16	18.9	2.4	2.4	2.5	\$ 43.40
17	34.9	4.4	4.4	3.8	\$ 36.92
18	484.2	60.5	60.5	49.6	\$ 36.57
19	13.1	1.6	1.6	3.0	\$ 38.84
20	194.2	24.3	24.3	21.9	\$ 37.92
21	129.7	16.2	16.2	31.5	\$ 36.33

Table 8

**PROJECT WATER BY PRICING TIERS
WET YEAR FOLLOWING WET (1967-71) BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.4	1.3	1.3	-	\$ 19.67
2	29.4	3.7	3.7	-	\$ 18.42
3	-	-	-	-	NA
3B	212.9	26.6	26.6	-	\$ 19.39
4	-	-	-	-	NA
5	16.6	2.1	2.1	-	\$ 21.35
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	63.5	7.9	7.9	-	\$ 15.24
9	38.5	4.8	4.8	-	\$ 33.89
10	317.6	39.7	39.7	-	\$ 33.85
11	-	-	-	-	NA
12	-	-	-	-	NA
13	165.0	20.6	20.6	-	\$ 34.04
14	740.0	92.5	92.5	-	\$ 36.78
15	34.2	4.3	4.3	-	\$ 35.47
16	21.0	2.6	2.6	-	\$ 42.37
17	37.9	4.7	4.7	-	\$ 36.07
18	523.8	65.5	65.5	-	\$ 35.69
19	15.5	1.9	1.9	-	\$ 36.86
20	211.7	26.5	26.5	-	\$ 36.86
21	154.9	19.4	19.4	-	\$ 34.59

Table 9

**PROJECT WATER APPLIED BY PRICING TIERS
WET YEAR FOLLOWING DRY 5-YEAR BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.8	1.3	0.9	-	\$ 18.20
2	6.2	0.8	0.8	28.9	\$ 52.83
3	-	-	-	-	NA
3B	40.2	5.0	5.0	215.9	\$ 61.42
4	-	-	-	-	NA
5	14.3	1.8	1.8	2.9	\$ 21.92
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	20.2	2.5	2.5	54.1	\$ 35.47
9	9.2	1.1	1.1	36.7	\$ 73.22
10	94.0	11.8	11.8	279.5	\$ 44.63
11	-	-	-	-	NA
12	-	-	-	-	NA
13	104.4	13.0	13.0	75.9	\$ 37.94
14	219.1	27.4	27.4	651.1	\$ 53.36
15	26.8	3.4	3.4	9.1	\$ 38.82
16	13.7	1.7	1.7	9.1	\$ 46.07
17	24.5	3.1	3.1	16.8	\$ 39.88
18	339.7	42.5	42.5	230.2	\$ 39.78
19	8.7	1.1	1.1	8.5	\$ 42.52
20	133.9	16.7	16.7	97.2	\$ 41.58
21	76.2	9.5	9.5	98.3	\$ 40.03

Table 10

**PROJECT WATER APPLIED BY PRICING TIERS
 DRY YEAR FOLLOWING AVERAGE 5-YEAR BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	9.4	1.2	1.2	1.7	\$ 25.19
2	7.8	-	-	-	\$ 10.71
3	-	-	-	-	NA
3B	50.3	-	-	-	\$ 10.25
4	-	-	-	-	NA
5	16.0	1.9	-	-	\$ 20.90
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	25.3	-	-	-	\$ 10.00
9	11.5	-	-	-	\$ 24.79
10	117.5	-	-	-	\$ 31.15
11	-	-	-	-	NA
12	-	-	-	-	NA
13	130.4	-	-	-	\$ 32.16
14	273.9	-	-	-	\$ 32.62
15	32.3	1.3	-	-	\$ 33.07
16	17.1	-	-	-	\$ 40.48
17	30.6	-	-	-	\$ 34.18
18	424.6	-	-	-	\$ 33.63
19	10.9	-	-	-	\$ 34.58
20	167.4	-	-	-	\$ 34.58
21	95.3	-	-	-	\$ 32.70

Table 11

**PROJECT WATER APPLIED BY PRICING TIERS
 DRY YEAR FOLLOWING WET (1967-71) BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.4	1.3	1.3	0.4	\$ 21.09
2	7.8	-	-	-	\$ 10.71
3	-	-	-	-	NA
3B	50.3	-	-	-	\$ 10.25
4	-	-	-	-	NA
5	16.6	1.2	-	-	\$ 20.81
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	25.3	-	-	-	\$ 10.00
9	11.5	-	-	-	\$ 24.79
10	117.5	-	-	-	\$ 31.15
11	-	-	-	-	NA
12	-	-	-	-	NA
13	130.4	-	-	-	\$ 32.16
14	273.9	-	-	-	\$ 32.62
15	33.6	-	-	-	\$ 32.71
16	17.1	-	-	-	\$ 40.48
17	30.6	-	-	-	\$ 34.18
18	424.6	-	-	-	\$ 33.63
19	10.9	-	-	-	\$ 34.58
20	167.4	-	-	-	\$ 34.58
21	95.3	-	-	-	\$ 32.70

Table 12

**PROJECT WATER BY PRICING TIERS
 DRY YEAR FOLLOWING DRY (1928-34) BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.8	1.3	1.3	-	\$ 19.67
2	6.2	0.8	0.8	-	\$ 18.42
3	-	-	-	-	NA
3B	40.2	5.0	5.0	-	\$ 19.39
4	-	-	-	-	NA
5	14.3	1.8	1.8	-	\$ 21.35
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	20.2	2.5	2.5	-	\$ 15.24
9	9.2	1.1	1.1	-	\$ 33.89
10	94.0	11.8	11.8	-	\$ 33.85
11	-	-	-	-	NA
12	-	-	-	-	NA
13	104.4	13.0	13.0	-	\$ 34.04
14	219.1	27.4	27.4	-	\$ 36.78
15	26.8	3.4	3.4	-	\$ 35.47
16	13.7	1.7	1.7	-	\$ 42.37
17	24.5	3.1	3.1	-	\$ 36.07
18	339.7	42.5	42.5	-	\$ 35.69
19	8.7	1.1	1.1	-	\$ 36.86
20	133.9	16.7	16.7	-	\$ 36.86
21	76.2	9.5	9.5	-	\$ 34.59

TABLE 13

IRRIGATED ACRES BY SUBREGION ('1000 ACRES)

CVPM Subregion	Average Preferred Alternative	Change Compared to			Wet Preferred Alternative	Change Compared to			Dry Preferred Alternative	Change Compared to		
		Average	Wet	Dry		Average	Wet	Dry		Average	Wet	Dry
		followed by Average				followed by Wet				followed by Dry		
Sacramento River	2015.5	-1.7	-0.8	-65.3	2020.0	-5.9	-5.9	-54.1	1984.8	0.3	0.3	0.3
San Joaquin River	2526.6	-0.2	-0.2	-1.2	2529.1	-1.7	-1.7	-1.9	2505.9	0.0	0.0	0.0
Tulare Lake	1992.4	0.0	0.0	-0.2	1996.2	-1.2	-1.2	-1.3	1953.7	0.1	0.1	0.1
San Felipe	50.7	0.0	0.0	0.0	69.5	0.0	0.0	0.0	22.2	0.0	0.0	0.0
California Total	6585.2	-1.9	-1.0	-66.7	6614.8	-8.8	-8.8	-57.3	6466.6	0.4	0.4	0.3

TABLE 14

VALUE OF PRODUCTION BY SUBREGION (Million \$)

CVPM Subregion	Average Preferred Alternative	Change Compared to Average followed by Average			Wet Preferred Alternative	Change Compared to Wet PA followed by Wet			Dry Preferred Alternative	Change Compared to Dry PA followed by Dry		
		Average	Wet	Dry		Average	Wet	Dry		Average	Wet	Dry
Sacramento River	1,825.3	-0.4	-0.2	-37.6	1,828.0	-2.5	-2.5	-27.5	1,810.0	0.5	0.5	0.5
San Joaquin River	4,402.3	-0.1	-0.1	-1.0	4,403.8	-0.9	-1.0	-1.1	4,384.2	-0.2	-0.2	-0.2
Tulare Lake	3,876.3	0.0	0.0	-0.3	3,879.4	-1.0	-1.0	-1.1	3,842.7	0.1	0.1	0.1
San Felipe	68.0	0.0	0.0	0.0	70.0	0.0	0.0	0.0	44.0	0.0	0.0	0.0
California Total	10,172.0	-0.5	-0.4	-38.8	10,181.2	-4.5	-4.5	-29.6	10,080.8	0.4	0.4	0.4

TABLE 15

NET REVENUE CHANGES BY REGION (Million \$)

Cause of Net Revenue Change	Compared to Average Year PA followed by Average			Compared to Wet Year PA followed by Wet			Compared to Dry Year PA followed by Dry		
	Average	Wet	Dry	Average	Wet	Dry	Average	Wet	Dry
Sacramento River									
Fallowed Land	-0.1	0.0	-6.7	-0.4	-0.4	-4.7	0.1	0.0	0.0
Groundwater Pumping	-0.3	-0.3	-0.4	-0.1	-0.1	-5.8	3.7	3.7	3.7
Irrigation Cost	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
CVP Water Cost	-0.3	1.7	3.6	-5.1	-1.0	4.6	-0.1	-0.1	-0.7
Higher Crop Prices	0.0	0.0	1.9	0.2	0.2	1.0	0.0	0.0	0.0
Net Change	-1.0	1.0	-1.9	-5.9	-1.7	-5.2	3.3	3.3	2.8
San Joaquin River									
Fallowed Land	0.0	0.0	-0.1	-0.2	-0.2	-0.2	0.0	0.0	0.0
Groundwater Pumping	0.0	0.0	-10.3	-7.4	0.1	-14.2	-0.3	-0.3	-0.3
Irrigation Cost	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
CVP Water Cost	1.0	4.0	2.3	7.9	6.1	6.2	-5.9	-5.9	-7.5
Higher Crop Prices	0.1	0.0	2.5	0.2	0.2	1.0	0.0	0.0	0.0
Net Change	0.9	3.9	-5.7	0.4	6.1	-7.3	-6.4	-6.4	-7.9
Tulare Lake									
Fallowed Land	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0
Groundwater Pumping	0.1	0.1	0.1	1.0	1.0	1.0	-0.5	-0.5	-1.4
Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVP Water Cost	-2.3	-1.2	-5.7	-3.1	-2.1	-6.4	-0.9	-0.9	-1.4
Higher Crop Prices	0.0	0.0	1.4	0.1	0.1	0.4	0.0	0.0	0.0
Net Change	-2.1	-1.1	-4.2	-2.1	-1.1	-5.1	-1.3	-1.3	-2.8
San Felipe									
Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Groundwater Pumping	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVP Water Cost	-0.2	0.0	-0.6	-0.5	-0.2	-0.9	0.0	0.0	-0.1
Higher Crop Prices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Change	-0.2	0.0	-0.6	-0.5	-0.2	-0.9	0.0	0.0	-0.1
Total									
Fallowed Land	-0.1	-0.1	-6.9	-0.8	-0.8	-5.0	0.0	0.0	0.0
Groundwater Pumping	-0.2	-0.2	-10.5	-6.5	1.0	-19.0	2.9	2.9	2.0
Irrigation Cost	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
CVP Water Cost	-1.6	4.5	0.2	-0.3	3.1	4.5	-6.9	-6.8	-9.5
Higher Crop Prices	0.1	0.1	5.8	0.5	0.5	2.4	0.0	0.0	0.0
Net Change	-2.3	3.7	-11.9	-7.6	3.3	-17.6	-4.4	-4.3	-7.9

TABLE 16
IRRIGATION WATER APPLIED BY REGION ('1000 AF)

Region	Average		Change Compared to Average PA			Wet		Change Compared to Wet PA			Dry		Change Compared to Dry PA		
	Preferred	Alternative	Average	Wet	Dry	Preferred	Alternative	Average	Wet	Dry	Preferred	Alternative	Average	Wet	Dry
Sacramento River															
CVP Water*	625.9		-27.6	-23.4	-243.5	694.3		-2.4	-2.6	-305.5	402.1		-20.3	-20.3	-20.4
Groundwater	2,621.3		10.5	10.7	11.2	2,456.9		-31.5	-31.3	109.3	3,261.6		5.3	5.3	5.2
San Joaquin River															
CVP Water*	960.2		-8.7	-9.0	-269.0	1,226.6		-226.3	-21.0	-378.7	506		-17.5	-17.5	-17.5
Groundwater	3,606.2		3.3	3.5	260.0	2,974.2		214.9	10.2	366.7	4723		12.2	12.2	12.1
Tulare Lake															
CVP Water*	919.5		1.9	2.0	2.0	967.3		3.7	3.8	3.6	685.3		0.1	0.1	-9.4
Groundwater	3,369.0		-1.8	-2.0	-2.0	2,683.5		-7.7	-7.7	-7.5	4,542.9		0.0	0.0	9.4
San Felipe															
CVP Water*	71.0		0.0	0.0	0.0	71.0		0.0	0.0	0.0	71.0		0.0	0.0	0.0
Groundwater	na		na	na	na	na		na	na	na	na		na	na	na
Total															
CVP Water*	2,505.5		-34.4	-30.4	-510.5	2,888.2		-224.9	-19.9	-680.6	1,593.9		-37.7	-37.8	-47.2
Groundwater	9,596.5		11.9	12.3	269.2	8,114.6		175.7	-28.8	468.6	12,527.1		17.5	17.5	26.8

*CVP water applied is project water only. It excludes exchange contract delivery and the base supply portion of settlement contracts.

*CVP water applied is project water only. It excludes exchange contract delivery and the base supply portion of settlement contracts.

TABLE 17 IRRIGATED ACREAGE BY SUBREGION

CVP Subregion	Crop Category	Preferred Alternative Average	Changes Compared to Average PA				Preferred Alternative Wet	Changes Compared to Wet PA				Preferred Alternative Dry	Changes Compared to Dry PA					
			Followed by Average					Followed by Wet					Followed by Dry					
			Average	Wet	Dry	Average		Wet	Dry	Average	Wet	Dry	Average	Wet	Dry	Average	Wet	Dry
1	Pasture	18.3	-1.2	-0.3	-0.1	18.3	-1.5	-1.5	-1.5	-1.5	18.1	-1.8	-1.8	-1.8	-1.8	-1.8		
	Alfalfa	0.9	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0			
	Other Field Crops	1.2	0.0	0.0	0.0	1.2	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0			
	Deciduous Orchard	3.8	0.0	0.0	0.0	3.8	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0			
	Small Grain	2.4	0.0	0.0	0.0	2.4	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0			
	Subtotal	26.6	-1.3	-0.3	-0.1	26.5	-1.6	-1.6	-1.6	-1.6	26.3	-1.9	-1.9	-1.9	-1.9	-1.9		
2	Pasture	34.1	0.0	0.0	-3.6	33.9	0.0	0.0	0.0	-5.9	33.1	0.0	0.0	0.0	0.0			
	Alfalfa	9.5	0.0	0.0	-0.3	9.5	0.0	0.0	0.0	-0.6	9.4	0.0	0.0	0.0	0.0			
	Sugar Beets	4.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	-0.1	4.0	0.0	0.0	0.0	0.0			
	Other Field Crops	17.3	0.0	0.0	-0.5	17.2	0.0	0.0	0.0	-0.7	17.1	0.0	0.0	0.0	0.0			
	Rice	4.5	0.0	0.0	-0.2	4.5	0.0	0.0	0.0	-0.3	4.5	0.0	0.0	0.0	0.0			
	Truck Crops	15.5	0.0	0.0	0.0	15.5	0.0	0.0	0.0	0.0	15.5	0.0	0.0	0.0	0.0			
	Deciduous Orchard	86.0	0.0	0.0	-0.1	86.0	0.0	0.0	0.0	0.0	86.0	0.0	0.0	0.0	0.0			
	Small Grain	14.0	0.0	0.0	-0.2	13.9	0.0	0.0	0.0	-0.6	13.7	0.0	0.0	0.0	0.0			
	Subtropical Orchard	10.2	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0			
	Subtotal	195.0	0.0	0.0	-4.9	194.7	-0.1	-0.1	-0.1	-8.2	193.5	0.0	0.0	0.0	0.0	0.0		
3	Pasture	7.8	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0			
	Alfalfa	18.2	0.0	0.0	0.0	18.3	0.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0	0.0			
	Sugar Beets	9.9	0.0	0.0	0.0	9.9	0.0	0.0	0.0	0.0	9.8	0.0	0.0	0.0	0.0			
	Other Field Crops	15.7	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0	15.5	0.0	0.0	0.0	0.0			
	Rice	138.9	0.0	0.0	0.0	139.5	-0.3	-0.3	-0.3	-0.2	136.7	0.0	0.0	0.0	0.0			
	Truck Crops	25.2	0.0	0.0	0.0	25.2	0.0	0.0	0.0	0.0	25.2	0.0	0.0	0.0	0.0			
	Tomatoes	25.9	0.0	0.0	0.0	25.9	0.0	0.0	0.0	0.0	25.8	0.0	0.0	0.0	0.0			
	Deciduous Orchard	17.8	0.0	0.0	0.0	17.8	0.0	0.0	0.0	0.0	17.8	0.0	0.0	0.0	0.0			
	Small Grain	30.5	0.0	0.0	0.0	30.6	0.0	0.0	0.0	0.0	29.8	0.0	0.0	0.0	0.0			
	Subtotal	289.8	0.0	0.0	0.0	290.7	-0.4	-0.4	-0.4	-0.3	286.2	0.0	0.0	0.0	0.0	0.0		
3B	Pasture	5.7	0.0	0.0	-5.7	5.8	0.1	0.1	0.1	-1.5	4.3	0.0	0.0	0.0	0.0			
	Alfalfa	10.1	0.0	0.0	-10.1	10.2	0.0	0.0	0.0	-2.6	7.6	0.0	0.0	0.0	0.0			
	Sugar Beets	5.6	0.0	0.0	-5.3	5.6	0.0	0.0	0.0	-2.8	5.1	0.0	0.0	0.0	0.0			
	Other Field Crops	13.4	0.0	0.0	-13.4	13.5	0.0	0.0	0.0	-13.5	10.4	0.0	0.0	0.0	0.0			
	Rice	9.6	0.0	0.0	-9.6	9.7	0.0	0.0	0.0	-9.7	6.2	0.0	0.0	0.0	0.0			
	Truck Crops	0.6	0.0	0.0	-0.1	0.6	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0			
	Tomatoes	6.1	0.0	0.0	-3.8	6.1	0.0	0.0	0.0	-1.8	5.7	0.0	0.0	0.0	0.0			
	Deciduous Orchard	26.9	0.0	0.0	-3.3	26.9	0.0	0.0	0.0	0.0	26.9	0.0	0.0	0.0	0.0			
	Small Grain	8.5	0.0	0.0	-8.5	8.6	0.0	0.0	0.0	-8.6	6.2	0.0	0.0	0.0	0.0			
	Subtropical Orchard	1.0	0.0	0.0	-0.1	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0			
Subtotal	87.6	0.0	0.0	-59.9	87.9	0.1	0.1	0.1	-40.4	74.0	0.0	0.0	0.0	0.0	0.0			

TABLE 17 IRRIGATED ACREAGE BY SUBREGION

CVPM Subregion	Crop Category	Preferred Alternative Average	Changes Compared to Average PA			Preferred Alternative	Changes Compared to Wet PA			Preferred Alternative	Changes Compared to Dry PA		
			Average	Followed by Average			Average	Followed by Wet			Average	Followed by Dry	
				Wet	Dry			Wet	Dry			Wet	Dry
4	Pasture	1.2	0.0	0.0	0.0	1.2	0.0	0.0	0.0	1.1	0.0	0.0	0.0
	Alfalfa	6.8	0.0	0.0	0.0	6.8	0.0	0.0	0.0	6.8	0.0	0.0	0.0
	Sugar Beets	10.3	0.0	0.0	0.0	10.3	0.0	0.0	0.0	10.3	0.0	0.0	0.0
	Other Field Crops	40.1	0.0	0.0	0.0	40.1	0.0	0.0	0.0	39.8	0.0	0.0	0.0
	Rice	87.8	0.0	0.0	0.0	87.9	-0.1	-0.1	0.0	87.1	0.0	0.0	0.0
	Truck Crops	17.1	0.0	0.0	0.0	17.1	0.0	0.0	0.0	17.1	0.0	0.0	0.0
	Tomatoes	34.1	0.0	0.0	0.0	34.1	0.0	0.0	0.0	34.0	0.0	0.0	0.0
	Deciduous Orchard	30.6	0.0	0.0	-0.0	30.6	0.0	0.0	0.0	30.6	0.0	0.0	0.0
	Small Grain	47.5	0.0	0.0	0.0	47.6	0.0	0.0	0.0	46.8	0.0	0.0	0.0
	Subtotal	275.3	0.0	0.0	0.0	275.7	-0.2	-0.2	-0.1	273.6	0.0	0.0	0.0
5	Pasture	21.4	0.0	0.0	0.0	21.5	-0.1	-0.1	-0.1	21.0	0.0	0.0	0.0
	Alfalfa	4.7	0.0	0.0	0.0	4.7	0.0	0.0	0.0	4.7	0.0	0.0	0.0
	Sugar Beets	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
	Other Field Crops	15.4	0.0	0.0	0.0	15.4	0.0	0.0	0.0	15.4	0.0	0.0	0.0
	Rice	166.0	0.0	0.0	0.0	166.6	-0.5	-0.5	-0.4	165.2	0.0	0.0	0.0
	Truck Crops	6.6	0.0	0.0	0.0	6.6	0.0	0.0	0.0	6.6	0.0	0.0	0.0
	Tomatoes	1.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0
	Deciduous Orchard	121.6	0.0	0.0	0.0	121.6	0.0	0.0	0.0	121.6	0.0	0.0	0.0
	Small Grain	22.3	0.0	0.0	0.0	22.4	0.0	0.0	0.0	21.9	0.0	0.0	0.0
	Subtropical Orchard	2.5	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.5	0.0	0.0	0.0
6	Subtotal	364.1	0.0	0.0	0.0	364.9	-0.7	-0.7	-0.6	362.4	0.0	0.0	0.0
	Pasture	12.1	0.0	0.0	0.0	12.5	-0.4	-0.4	-0.4	11.8	0.0	0.0	0.0
	Alfalfa	28.7	0.0	0.0	0.1	29.0	-0.3	-0.3	-0.3	28.6	0.0	0.0	0.0
	Sugar Beets	21.2	0.0	0.0	0.0	21.2	-0.1	-0.1	-0.1	21.1	0.0	0.0	0.0
	Other Field Crops	59.4	0.0	0.0	0.0	59.9	-0.5	-0.5	-0.5	59.1	0.0	0.0	0.0
	Rice	12.9	0.0	0.0	0.0	13.1	-0.2	-0.2	-0.2	12.8	0.0	0.0	0.0
	Truck Crops	3.4	0.0	0.0	0.0	3.4	0.0	0.0	0.0	3.4	0.0	0.0	0.0
	Tomatoes	45.8	0.0	0.0	0.0	45.9	-0.1	-0.1	-0.1	45.7	0.0	0.0	0.0
	Deciduous Orchard	24.6	0.0	0.0	0.0	24.6	0.0	0.0	0.0	24.6	0.0	0.0	0.0
	Small Grain	64.3	0.0	0.0	0.0	64.6	-0.4	-0.4	-0.4	63.3	0.2	0.2	0.2
Grapes	8.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	
Subtotal	280.2	0.0	0.0	0.0	282.2	-2.1	-2.1	-2.0	278.4	0.2	0.2	0.2	
7	Pasture	14.5	0.0	0.0	0.0	14.5	0.0	0.0	0.0	14.2	0.0	0.0	0.0
	Alfalfa	3.1	0.0	0.0	0.0	3.1	0.0	0.0	0.0	3.1	0.0	0.0	0.0
	Sugar Beets	2.5	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.5	0.0	0.0	0.0
	Other Field Crops	3.8	0.0	0.0	0.0	3.8	0.0	0.0	0.0	3.8	0.0	0.0	0.0
	Rice	48.3	0.0	0.0	0.0	48.3	-0.1	-0.1	0.0	47.9	0.0	0.0	0.0
	Truck Crops	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0
	Tomatoes	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0
	Deciduous Orchard	8.9	0.0	0.0	0.0	8.9	0.0	0.0	0.0	8.9	0.0	0.0	0.0
	Small Grain	9.4	0.0	0.0	0.0	9.3	0.0	0.0	0.0	9.2	0.0	0.0	0.0
	Grapes	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Subtotal	91.4	0.0	0.0	0.0	91.5	-0.1	-0.1	-0.1	90.5	0.0	0.0	0.0	

TABLE 17 IRRIGATED ACREAGE BY SUBREGION

CVP Subregion	Crop Category	Preferred Alternative Average	Changes Compared to Average PA			Preferred Alternative Wet	Changes Compared to Wet PA			Preferred Alternative Dry	Changes Compared to Dry PA		
			Average	Followed by Average			Average	Followed by Wet			Average	Followed by Dry	
				Wet	Dry			Wet	Dry			Wet	Dry
8	Pasture	47.7	0.0	0.0	0.0	47.6	0.0	0.0	0.0	46.9	0.0	0.0	
	Alfalfa	12.3	0.0	0.0	0.0	12.3	0.0	0.0	0.0	12.2	0.0	0.0	
	Sugar Beets	12.8	0.0	0.0	0.0	12.8	0.0	0.0	0.0	12.8	0.0	0.0	
	Other Field Crops	42.7	0.0	0.0	0.0	42.7	0.0	0.0	0.0	42.5	0.0	0.0	
	Rice	4.5	0.0	0.0	0.0	4.5	0.0	0.0	0.0	4.5	0.0	0.0	
	Truck Crops	17.1	0.0	0.0	0.0	17.1	0.0	0.0	0.0	17.1	0.0	0.0	
	Tomatoes	12.9	0.0	0.0	0.0	12.9	0.0	0.0	0.0	12.9	0.0	0.0	
	Deciduous Orchard	46.9	0.0	0.0	0.0	46.9	0.0	0.0	0.0	46.9	0.0	0.0	
9	Small Grain	29.0	0.0	0.0	0.0	29.1	0.0	0.0	0.0	28.2	0.0	0.0	
	Grapes	58.9	0.0	0.0	0.0	58.9	0.0	0.0	0.0	58.9	0.0	0.0	
	Subtotal	284.8	0.0	0.0	0.0	284.9	0.0	0.0	0.0	282.8	0.0	0.0	
	Pasture	24.6	-0.2	-0.2	-0.1	24.6	-0.4	-0.4	-0.4	23.4	0.7	0.7	
	Alfalfa	43.8	-0.1	-0.1	0.0	43.8	-0.3	-0.3	-0.2	43.1	0.4	0.4	
	Sugar Beets	28.6	0.0	0.0	0.0	28.6	-0.1	-0.1	0.0	28.5	0.1	0.1	
	Other Field Crops	114.9	-0.2	-0.2	-0.2	115.0	-0.5	-0.5	-0.5	113.6	0.7	0.7	
	Rice	0.9	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.0	
10	Truck Crops	46.0	0.0	0.0	0.0	46.0	0.0	0.0	0.0	46.0	0.0	0.0	
	Tomatoes	42.5	0.0	0.0	0.0	42.5	0.0	0.0	0.0	42.3	0.1	0.1	
	Deciduous Orchard	21.3	0.0	0.0	0.0	21.3	0.0	0.0	0.0	21.3	0.0	0.0	
	Small Grain	96.8	-0.1	-0.1	-0.1	97.5	-0.3	-0.3	-0.3	93.7	1.0	1.0	
	Grapes	5.8	0.0	0.0	0.0	5.8	0.0	0.0	0.0	5.8	0.0	0.0	
	Subtotal	425.0	-0.6	-0.6	-0.4	425.9	-1.6	-1.6	-1.4	418.4	3.0	3.0	
	Pasture	13.3	0.0	0.0	-0.2	13.3	0.0	0.0	0.0	13.3	0.0	0.0	
	Alfalfa	40.8	0.0	0.0	-0.3	40.9	-0.1	0.0	-0.1	40.8	0.0	0.0	
10	Sugar Beets	13.9	0.0	0.0	0.0	13.9	0.0	0.0	0.0	13.9	0.0	0.0	
	Other Field Crops	48.2	0.0	0.0	-0.1	48.2	0.1	0.0	0.0	48.3	0.0	0.0	
	Rice	2.9	0.0	0.0	0.0	2.9	0.0	0.0	0.0	2.9	0.0	0.0	
	Truck Crops	112.9	0.0	0.0	0.0	112.9	0.0	0.0	0.0	113.0	0.0	0.0	
	Tomatoes	40.2	0.0	0.0	0.0	40.2	0.0	0.0	0.0	40.2	0.0	0.0	
	Deciduous Orchard	36.6	0.0	0.0	0.0	36.6	0.0	0.0	0.0	36.6	0.0	0.0	
	Small Grain	14.0	0.0	0.0	0.0	14.0	0.1	0.0	0.1	14.0	0.0	0.0	
	Grapes	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	
10	Cotton	103.1	0.0	0.0	-0.5	103.1	-0.1	0.0	-0.1	103.1	0.0	0.0	
	Subtotal Orchard	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	
Subtotal		427.1	0.0	0.0	-1.1	427.2	-0.1	0.0	-0.1	427.1	0.0	0.0	

TABLE 17 IRRIGATED ACREAGE BY SUBREGION

CVP Subregion	Crop Category	Preferred Alternative Average	Changes Compared to Average PA			Preferred Alternative Wet	Changes Compared to Wet PA			Preferred Alternative Dry	Changes Compared to Dry PA		
			Average	Followed by Average			Average	Followed by Wet			Average	Followed by Dry	
				Wet	Dry			Wet	Dry			Wet	Dry
11	Pasture	42.9	0.0	0.0	0.0	43.0	0.0	0.0	0.0	42.7	0.0	0.0	0.0
	Alfalfa	8.4	0.0	0.0	0.0	8.4	0.0	0.0	0.0	8.3	0.0	0.0	0.0
	Sugar Beets	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0
	Other Field Crops	17.8	0.0	0.0	0.0	17.9	0.0	0.0	0.0	17.8	0.0	0.0	0.0
	Rice	4.4	0.0	0.0	0.0	4.4	0.0	0.0	0.0	4.4	0.0	0.0	0.0
	Truck Crops	6.3	0.0	0.0	0.0	6.3	0.0	0.0	0.0	6.3	0.0	0.0	0.0
	Tomatoes	0.8	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.8	0.0	0.0	0.0
	Deciduous Orchard	80.8	0.0	0.0	0.0	80.8	0.0	0.0	0.0	80.8	0.0	0.0	0.0
	Small Grain	1.8	0.0	0.0	0.0	1.8	0.0	0.0	0.0	1.8	0.0	0.0	0.0
	Grapes	10.4	0.0	0.0	0.0	10.4	0.0	0.0	0.0	10.4	0.0	0.0	0.0
	Subtotal	174.0	0.0	0.0	0.0	174.2	0.0	0.0	0.0	173.7	0.0	0.0	0.0
12	Pasture	18.3	0.0	0.0	0.0	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
	Alfalfa	18.2	0.0	0.0	0.0	18.1	0.0	0.0	0.0	18.1	0.0	0.0	0.0
	Sugar Beets	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
	Other Field Crops	41.2	0.0	0.0	0.0	41.0	0.0	0.0	0.0	41.0	0.0	0.0	0.0
	Truck Crops	3.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0
	Deciduous Orchard	94.0	0.0	0.0	0.0	94.0	0.0	0.0	0.0	94.0	0.0	0.0	0.0
	Small Grain	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	9.9	0.0	0.0	0.0
	Grapes	14.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0
	Cotton	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
	Subtropical Orchard	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
	Subtotal	200.8	0.0	0.0	0.0	200.2	0.0	0.0	0.0	200.1	0.0	0.0	0.0
13	Pasture	39.6	0.0	0.0	0.0	39.9	-0.2	-0.2	-0.3	39.5	-0.3	-0.3	-0.3
	Alfalfa	41.8	0.0	0.0	0.1	42.1	-0.2	-0.2	-0.2	41.8	-0.2	-0.2	-0.2
	Sugar Beets	5.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
	Other Field Crops	54.8	0.0	0.0	0.0	55.0	-0.1	-0.1	-0.2	54.6	-0.1	-0.1	-0.1
	Rice	3.9	0.0	0.0	0.0	3.9	0.0	0.0	0.0	3.9	0.0	0.0	0.0
	Truck Crops	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
	Tomatoes	7.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0
	Deciduous Orchard	135.0	0.0	0.0	0.0	135.0	0.0	0.0	0.0	135.0	0.0	0.0	0.0
	Small Grain	46.9	0.0	0.0	0.0	47.2	-0.1	-0.1	-0.1	46.4	-0.1	-0.1	-0.1
	Grapes	99.0	0.0	0.0	0.0	99.0	0.0	0.0	0.0	99.0	0.0	0.0	0.0
Cotton	71.8	0.0	0.0	0.0	72.1	-0.2	-0.2	-0.3	71.6	-0.2	-0.2	-0.2	
	Subtropical Orchard	9.9	0.0	0.0	0.0	9.9	0.0	0.0	0.0	9.9	0.0	0.0	0.0
	Subtotal	532.5	0.0	0.0	0.0	534.1	-0.8	-0.8	-1.1	531.6	-0.9	-0.9	-0.9